



**Media release
Monday 9 June 2008**

Mars, asteroid impacts, mass extinctions and 3.5 billion year old fossils among key topics at mega-conference

Mass extinctions on Earth, asteroid impacts, what 3.5 billion year old fossils can tell us about evolution, and cutting-edge information being gathered by NASA's current mission to Mars will be among hundreds of topics at a major international Earth Sciences conference to be held in Perth from 20-24 July 2008.

The 2008 Australian Earth Sciences Convention is Australia's premier geoscience conference and a major event on the international geosciences calendar. Hosted by the Australian Institute of Geoscientists and the Geological Society of Australia, it is expected to attract more than 1000 Australian and international delegates and will feature more than 135 presenters and 450 papers.

Essentially several major conferences wrapped into one, the Convention boasts five key streams. The *Evolution of Life and the Solar System* stream will include expert commentary on Planetary Science from leading Australian and international experts.

"The timing of this latest Mars mission – and the exciting information it is beaming back to Earth – means our stream at the Convention is well placed to provide cutting-edge analysis of what the mission is uncovering" said the co-ordinator of the stream, Dr Marc Norman, from the Research School of Earth Sciences at the Australian National University.

"It's an incredibly exciting time for geoscientists involved in space exploration. Today's technology – and particularly the advent of regular unmanned missions to planets like Mars – means we are able to get much closer to these planets for much longer than we have ever been able to before.

"So much is happening on Mars that every mission is uncovering new and exciting information. For example, we can now see there is some type of water-based erosion occurring on the planet. So where is the water going and why isn't it immediately evident? And most importantly, is there enough water available on the planet to support life?

"There are also landslides occurring regularly on Mars and there are noticeable changes in the planet's polar ice-caps. This shows that Mars is an active and evolving planet, and it is also giving scientists hope that one day we may be able to support life permanently on Mars or at least provide astronauts with the energy their spacecraft would need to get the millions of kilometres from Mars back to Earth.

"The Australian Earth Sciences Convention is extremely lucky to have Dr Jeffrey Taylor, Research Professor at the Hawai'i Institute of Geophysics and Planetology, University of Hawai'i, as a keynote speaker. Dr Taylor is an internationally-renowned expert on Mars, and has a keen interest in the exploratory missions to the planet. He will be speaking on *New views of the chemistry and geology of the crust of Mars*.

"We also have papers being presented by representatives from NASA, the Mars Society of Australia, Mt Stromlo Observatory, the Jet Propulsion Laboratory, the Institut De Physique Du Globe De Paris, and a variety of other universities and planetary research organisations.

Just some of the many presentations in the *Evolution of Life and the Solar System* stream will consider:

- meteorite and asteroid impacts in Australia, and their geodynamic consequences
- 3.5 billion year old fossils and micro-fossils, and what they can tell us about Earth's evolution
- evidence of mass extinctions on Earth
- the impact of impacts: impact as a geological process and its significance in economic geology
- the formation of the inner Solar System: new insights revealed by spacecraft data
- what we can learn about comets and the Sun from samples collected by recent spacecraft missions
- early planetary differentiation – the formation of crust, mantle and core on the Earth, Moon and Mars
- Martian landforms and processes
- international geoscientific drilling projects, including in Western Australia's Pilbara region
- a new perspective on the lunar cataclysm from crater density populations

"Given Western Australia is a treasure trove when it comes to asteroid and meteorite impacts, this Convention is also well-placed to consider the 'big issues' of Planetary Science from a local perspective" Dr Norman said.

Effectively several conferences wrapped into one, the Convention's five streams are:

- Evolution of life and the Solar System
- Resources – foundation for our future
- Geoscience in the service of society
- Earth's environments – past, present and future
- The dynamic Earth – from crust to core

The Convention's cutting-edge program will feature an enormous range of other topics including Australia's future energy mix, what parts of Australia are most likely to be affected by tsunamis (and what is being done to minimise this risk), climate change and global warming, groundwater exploration in Australia, groundwater contamination in the Himalayas and the USA, and risks to food production.

The conference will also focus on hundreds of other topics including marine eco-systems, geohazards like earthquakes and landslides, carbon sequestration, clean coal technologies, salinity, environmental degradation, uranium deposits and their production in a global context, alternative energy sources like geothermal energy, geo-tourism and even the geochemistry of termite mounds!

With the Convention being held in Perth, there is also a strong focus on minerals and energy exploration, cutting-edge technologies and potential discoveries in Western Australia, Australia and internationally.

"There are not many conferences where you can listen to a mining company executive in one session and then a representative from NASA in the next" Dr Norman said. "But that is exactly what is happening at the Australian Earth Sciences Convention. This really is a must-attend conference for geoscientists from all walks of life."

What: 2008 Australian Earth Sciences Convention
Where: Perth Convention & Exhibition Centre, Perth
When: Sunday 20 - Thursday 24 July 2008

Program info: The full program for the 2008 Australian Earth Sciences Convention can be found at www.iceaustralia.com/aesc2008. A program overview can be found in the Media section of the website.

Interested in attending? Please phone Patrick Daley on the number below.

Available for interview: **Dr Marc Norman** on 0410 342 149, **Dr Jon Hronsky** (Convention Program Director) and **Professor Peter Cawood** (Vice President, Geological Society of Australia and Convention Organising Committee member).

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